

Response Under 37 CFR 1.116

Expedited Procedure

Examining Group 2871

Application No. 09/979,566

Paper Dated: December 7, 2004

In Reply to USPTO Correspondence of August 23, 2004

Attorney Docket No. 1084-011969

REMARKS

This Amendment and accompanying Request for Continued Examination is submitted in response to the Final Office Action of August 23, 2004 and in view of the Interview of November 16, 2004.

Claims 10, 12, 13, 20 and 35 stand rejected under 35 U.S.C. §102(b) for anticipation by U.S. Patent No. 5,587,816 to Gunjima. Claims 11, 14, 15, 36, 37 and 39-41 stand rejected under 35 U.S.C. §103(a) for obviousness over the Gunjima patent in view of U.S. Patent No. 4,911,529 to Van De Ven. These rejections were discussed in the interview of November 16, 2004. The amendments to claims 11-14, 20, 35 and 36 were discussed in the interview. The Examiner suggested that the light-transmitting "element" and the "surface" thereof be clarified. Claims 11-14 have been amended to recite a "layer" and the "sides" thereof to make it clear that that claims are directed to the surfaces of opposing sides of a sheet or plate (i.e. a layer). Support therefor appears at least at page 7, at lines 7-10 and 18-24, page 8 at lines 13-15, and in the drawings. Claims 20, 35 and 36 are amended to likewise clarify that the stepped/ramped feature is on one side of the plate or sheet. No new matter has been added. Claim 10 has been cancelled.

The application of the rejections over Gunjima and Van De Ven to pending claims 11-15, 20, 35-37 and 39-41 are traversed for the following reasons.

35 U.S.C. §102(b) Rejections

Claim 12 is directed to an LCD display that incorporates a light-transmitting layer. One side of the layer has surface relief or texturing that eliminates or reduces reflections. The other side of the layer is stepped or ramped to form a Fresnel refracting arrangement. No such structure is taught or suggested by Gunjima. Gunjima discloses an LCD that includes a light-transmitting element spaced therefrom. In Fig. 3, the light-transmitting element includes a light guide 3 having a prism-shaped upper surface and a prism array 7 disposed between the prism-shaped light guide surface and a light-diffusing sheet 8. In Fig. 6, a retardation

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plate 40, prism 39, polarized light separator 38 and lens array 37 are positioned on a light guide 34. Neither structure includes a light-transmitting layer that has one side with surface texturing that eliminates reflections. To the extent that the prism shape or the lenses of the light guide in Figs. 3 or 6 eliminate or reduce reflections, there is no other side of that layer which is stepped or ramped to form a Fresnel refracting arrangement. Nowhere in Gunjima is there a light-transmitting layer that has one side with surface texturing and an opposing side of the layer that is stepped or ramped. Accordingly, claim 12 defines over Gunjima.

Claim 13 depends from claim 12 and further requires that the stepped or ramped side is rendered at least partially light reflecting. At best, the Gunjima patent discloses a reflecting plane 5 or 36 at the lower portion of the light guide 3 or 34, but there is no light-reflecting treatment of a stepped or ramped side of any structure. As such, claim 13 further defines over the Gunjima patent.

Claim 20 is directed to an LCD display that incorporates a plate or sheet of light-transmitting material having one side that is stepped or ramped to act as a Fresnel refractor or reflector, and an opposite side that has surface relief or texturing to reduce reflection of light from the stepped or ramped side. As noted above, nowhere in the Gunjima patent is there a structure of an LCD display that incorporates a sheet having one side that is stepped or ramped and an opposing side of the sheet which is textured. Claim 35 parallels claim 13 in requiring that the stepped or ramped surface is reflective or semi-reflective. Claims 20 and 35 define over the Gunjima patent for the same reasons that 12 and 13 define thereover.

35 U.S.C. §103(a) Rejections

Claim 11 defines an LCD display that incorporates a light-transmitting layer. One side of the light-transmitting layer has surface relief or texturing that eliminates or reduces reflections. That textured side of the light-transmitting layer forms a surface of the LCD display, which is closest to the viewer. The LCD displays described in the Gunjima patent do not have a light-transmitting layer that is closest

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to the viewer, which incorporates surface relief or texturing. While the Van De Ven patent discloses a front projection screen having surface relief or texturing, that is not applied to an LCD display. There is no motivation provided in the Gunjima patent for altering the surface of the LCD display which would be closest to the viewer, namely polarizing sheets **10** and **43** shown in Figs. 3 and 6 to have the surface relief or texturing of the Van De Ven projection screen. The combination of these references is inappropriate for rejecting claim 11. Claim 14 depends from claim 12 and further defines the stepped or ramped surface as having convexly or concavely curved portions or facets. Nowhere in the Gunjima patent is there any motivation to alter the prism shapes in the arrangement of Figs. 3 and 6 to also have convexly or concavely curved portions or facets. Again, the combination of the teachings concerning a projection screen disclosed in Van De Ven of microlenses along the surface of a ramped surface are not combinable with the Gunjima patent. Moreover, claim 14 requires one side of a layer that is stepped or ramped and another side that is surface textured. As noted above regarding claim 12, Gunjima fails to teach or suggest such a structure. Accordingly, claim 14 further defines over the combination of these references.

Claim 15 depends from claim 11 and requires that the light-transmitting material has variations in its refractive index to impart bulk light-diffusing properties to the material. While the Van De Ven patent discloses varying refractive indices within a projection screen, there is nothing in the Van De Ven patent that would motivate one skilled in the art to somehow alter the arrangement of the Gunjima patent to incorporate a textured surface to the LCD display. As such, claim 15 defines over the combination of these references.

Claims 36 and 37 parallel claims 14 and 15. As such, claims 36 and 37 define over the combination of the Gunjima and Van De Ven patents for the same reasons that claims 14 and 15 define thereover.

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Claims 39-41 define over the combined teachings of the Gunjima and Van De Ven patents. Neither of those patents teach or suggest two LCD plates against which a light-transmitting plate is positioned having a lower surface that is ramped or stepped and which bears a semi-reflective coating. Not only is there no light-transmitting plate with a stepped or ramped lower surface positioned adjacent a pair of LCD plates in the Gunjima or Van De Ven patents, there is no semi-reflective layer placed on the stepped or ramped surface of a light-transmitting plate in either of these patents, much less any disclosure concerning such a structure which provides ambient light to be reflected by the semi-reflective coating such that it passes perpendicularly back through the LCD. For these reasons and those provided in detail during the November 16, 2004 interview, claims 39-41 define over the combination of these references.

In view of the amendments to claims 11-15, 20, 35 and 36, and for the foregoing reasons, pending claims 11-15, 20, 35-37 and 39-41 are believed to define over the prior art of record and be in condition for allowance.

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